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ABSTRACT

This document presents statistics and tables dealing with the use of television and radio broadcasts in Japanese schools. Topics discussed include: (1) the increase in the number of schools using school broadcasts; (2) reasons for using school broadcasts; (3) the exchange of views between teachers and broadcasters; (4) ways of overcoming obstacles to the use of school broadcasts; (5) information concerning educational broadcasts for handicapped children; and (6) current problems of school broadcasts. (AWP)

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School Broadcasts in Japan

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School Broadcasts in Japan

*Takashiro Akiyama**

I. Introduction
II. Increase in the number of schools using school broadcasts
III. Reasons for using school broadcasts
IV. Exchange of views between teachers and broadcasters
V. Overcoming obstacles to the use of school broadcasts
VI. Educational broadcasts for handicapped children
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I. Introduction

Here in Japan, NHK marked the 40th anniversary of its school broadcasts this past year; these were started in 1935 over its nationwide network. In 1975, NHK has been sending to the children in Japan's schools 45 radio broadcasts totalling 23 hours and 40 minutes a week, and 55 television broadcasts totalling 33 hours and 55 minutes weekly. Of the television programs, 41 are in color. Approximately 23,000 primary schools, that is, 95% of the total, are using some NHK's school broadcasts.

Japan's commercial broadcasting stations also used to transmit their own school broadcasts over their nationwide television networks but they later found it difficult to get sponsors for such programs and so they suspended broadcasting for schools in 1974.

*) NHK Radio and TV Culture Research Institute

However, out of the 47 prefectures in Japan, the educational administrative authorities of 4 prefectures have recently launched broadcasts to the schools in their districts using commercial stations.

One of the factors leading many Japanese schools to use broadcasts is the structure of Japan's educational system. Before dealing with school broadcasts in Japan, therefore, a brief explanation will be made of the aspects of this educational system that concern the use of school broadcasts.

One major characteristic of education in Japan is the very high percentage of school attendance in the nine-year compulsory education system and the percentage of junior high school graduates going on to senior high school is also quite high. In Japan, children enter primary school in April after their sixth birthday, and study there for six years. Then for three years, from the age of twelve to fourteen, they study at junior high school. In 1974, 99.89% of the population reaching school age attended primary school, and 99.90% of the population in the corresponding age bracket attended junior high school. In short, almost all children finish nine years of compulsory education in Japan today.

After finishing three years' study in junior high school, those who pass the necessary examination go on to senior high school. In 1950, students who went on to senior high school registered only 38% of the population in the corresponding age bracket, while in 1975 they exceeded 91%. At day-course senior high schools, the pupils attend school for three years from the age of fifteen to seventeen, and at evening course schools, they attend for four years. The number of those attending kindergarten and other institutions for preschool-age children is also increasing yearly. In 1974, the figure reached 62% of all five-year-olds.

A second major characteristic is that the contents of education and the number of school hours from primary school up to senior high school are fixed in detail by the Ministry of Education. Thus there is considerable uniformity throughout the country. For example, in primary school, first to fourth graders are to learn eight subjects such as the Japanese language, arithmetic, science, social studies, physical education, drawing and manual arts, music and moral education; and the fifth and sixth graders also learn

homemaking. In this way, the Course of Study is fixed so that the pupils have a total of some 5,800 school hours in 6 years. There are generally no exceptions made. Religious education is prohibited in public schools under the Constitution. Textbooks on all subject (except moral education) issued by private publishers must be authorized by the Ministry of Education. Teachers make selections on their own accord, and the local administrative authorities distribute these textbooks free of charge to the pupils in the nine years of compulsory education.

With the contents of education and the number of school hours fixed by the Course of Study, all the pupils from the northern to the southern tip of the long archipelago of Japan learn very similar lessons at around the same time. This naturally encourages the use of school broadcasts on a nationwide network.

Next, since the teachers' training system and the teachers' qualifying examination system are well established, there is no problem in Japan of pupils having to be taught by broadcasts directly substituting for unlicensed teachers.

Lastly, perhaps the most important fact regarding school broadcasts in Japan is that NHK, broadcasting organization, is entirely independent of the educational authorities. Policies for school broadcasts are discussed by Local Advisory Councils and the Central Advisory Council under the guidance of NHK. NHK selects the members of the Councils independently from among teachers, educational experts and educational administrative officials. The annual curriculum of an individual series and the program contents are discussed by the Program Committees consisting of teachers, educational experts and educational administrative officials whom NHK chooses and of NHK's program directors. Each series has its own program committee and it holds a meeting three to four times a year.

In producing the programs for school broadcasts, NHK gets no financial aid from outside organizations, including the educational authorities.

In short, the fundamental character of school broadcasts in Japan is as follows.

The contents of the school curriculum is all fixed in detail under the official Course of Study throughout the country, and

both the pupils and teachers are given textbooks which were compiled on the basis of that norm. On the other hand, the broadcasting organization compiles its programs independently, while obtaining advice from people concerned with education. The programs thus prepared are used in class under the guidance of teachers.*)

Table 1 shows the number of radio and television school broadcast series and their broadcast hours.

Table 1

	Kindergarten (3~5 years old)	Primary School (6~11 years old)	Junior High School (12~14 years old)	Senior High School (15~18 years old)	Special Education
RADIO	6 series	17 series	10 series	12 series	—
	2 hours 45 m.	9 hours	4 hours 30 m.	7 hours 25 m.	—
TV	6 series	23 series	16 series	8 series	2 series
	4 hours 15 m.	12 hours	13 hours 20 m.	3 hours	1 hours 20 m.

Note: Some series are broadcast two or three times a week, but they are excluded from the number of series.

Both the radio and television school broadcasts are transmitted on the channel devoted to education. In Japan, television reaches more than 97% of all households and radio more than 99%. If schools anywhere in Japan have receiving sets, they can receive school broadcasts clearly.

II. Increase in the number of schools using school broadcasts

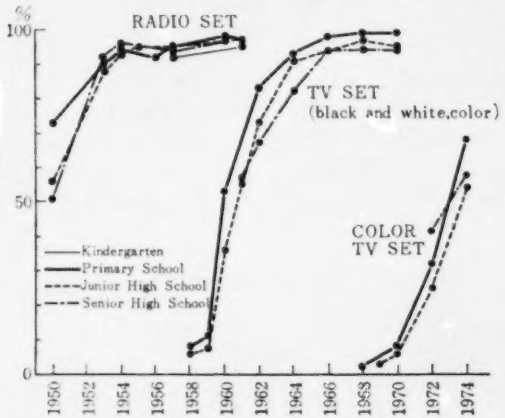
Radio

A survey conducted two years after school broadcasts were

*) Besides the regular school programs already mentioned, there are programs directed to those who are taking correspondence courses in senior high school education in their own homes. These programs, which fully play the role of teachers, will not be discussed in the present article.

started in Japan (in 1937) revealed that 59% of all primary schools were provided with radio sets. Subsequently, the number of schools equipped with radio sets steadily increased until the Second World War. Then, in 1950, NHK conducted a nationwide sampling survey and found that 73% of all the primary schools had radio sets. As Fig. 1 indicates, the number of schools equipped with radio sets increased yearly, and in 1957 they reached 95% of the total. A similar increase was registered at junior and senior high schools as well.

Fig. 1. Percentage of radio and TV sets in use by year



Note: The percentage of TV sets in use at kindergartens is almost equal to that at the three other kinds of schools.

During this period the number of radio series for school broadcasting also increased and the contents became more varied. In 1935 there were only 15 such radio series a week totalling 4 hours and 10 minutes, while in 1953 these radio series had increased to 65, totalling 19 hours and 15 minutes.

Though teachers' interest in school broadcasts grew little by little in pre-war Japan, it was traditionally considered that education meant having the pupils memorize what was written in the

textbooks compiled by the Ministry of Education. Thus the number of teachers actively using broadcasts in class did not grow much before 1950. Moreover, there were many teachers who believed that education could be conducted only through personal contact between the teacher and pupils and that it was undesirable to bring machines between them. The Ministry of Education was not in favor of school broadcasts either.

This being the case, NHK continuously tried to persuade the educational authorities and to enlighten the teachers regarding this new educational method. To primary schools across the country NHK also distributed the Teacher's Notes, explaining the contents of school broadcasts. In 1955 NHK contributed battery-powered radio sets to schools in remote areas lacking electricity so that such schools with limited resources could use school broadcasts.

With the increase in the number of educational series, the improvement in their contents and the campaigns for promoting their use, the number of schools using these gradually increased, as seen in Figures 2 through 5. In 1956 more than half of the primary schools in Japan were using school radio broadcasts.

Fig. 2. Percentage of use of school broadcasts in kindergartens

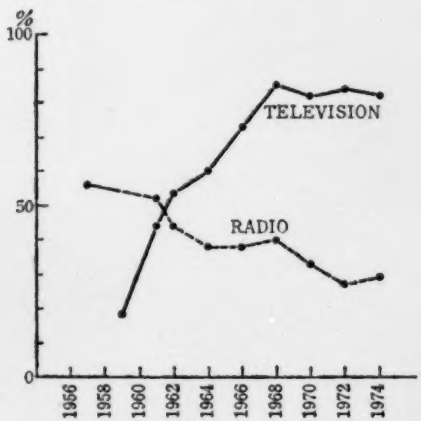


Fig. 3. Percentage of use of school broadcasts in primary schools

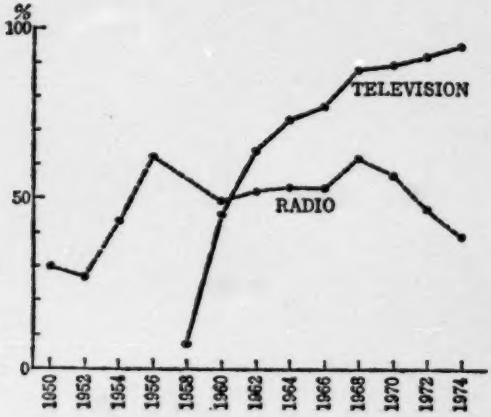


Fig. 4. Percentage of use of school broadcasts in junior high schools

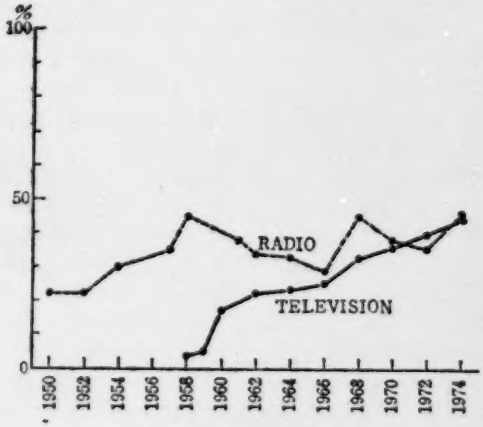
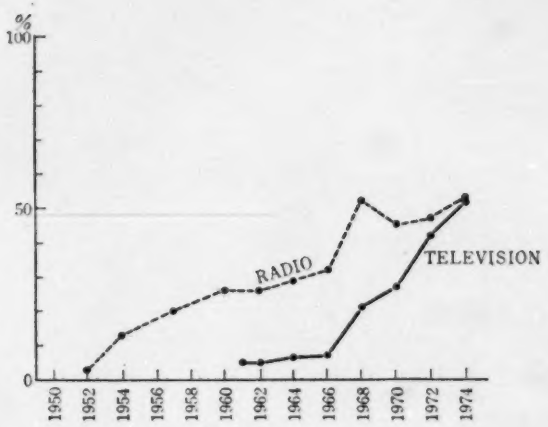


Fig. 5. Percentage of use of school broadcasts in senior high schools (day course)



In April 1953, when the number of primary schools using radio exceeded 30% of the total, the program contents of school broadcasts underwent a major change. Before that time, the school radio served not to instruct directly but to supplement and enrich classroom activities by presenting model singing, introducing industries of Japan by using sounds, dramatizing juvenile stories, and so forth. But then, in addition to such programs, an elaborate schedule was set up in April 1953 so that the programs could be directly associated with the contents of subjects which were set for pupils in the nine-year compulsory education system. For this purpose, six instructional Japanese language programs, eight music programs and one English language program were newly produced. These new programs were closely linked to each grade and were expected to be used as main teaching materials in class. Japanese language education in primary school had consisted almost entirely of memorizing, reading and writing complicated written characters, but then radio introduced into classes a standard of spoken Japanese.

From 1955 to 1960, although TV school programs were already being broadcasted radio was mainly used at schools. In particular, the Japanese language and music programs were used at many primary schools. In addition, there were three other series which dramatized children's lives at home and at school, the purpose of which was to have children think about good citizenship; 20 to 25% of the schools used these programs. "Travel in Japan with a Microphone" and "Dramas of Japanese History", which served as curriculum-enriching programs, were also children's favorites.

Of the radio programs for junior high schools, the programs dramatizing children's lives, historical dramas and music were also welcomed by pupils. However, even the favorite programs were used by only less than 5% of junior high schools at this time.

Television

It has been since the development of educational TV that school broadcasts in Japan expanded dramatically from kindergartens to senior high schools across the country. When telecasting services began in 1953, already three 15-minute TV programs were directed to primary schools and two to junior high schools. These TV school broadcasts were transmitted in and around Tokyo over the general service network.

Yet while radio school broadcasts were started when half of the primary schools in Japan already possessed radio sets, TV school broadcasts began when almost no schools had TV sets. In fact, throughout the country only about 1,500 households were receiving telecasts in March 1954.

NHK lent several pilot schools TV sets, asking them to give their comments on the programs, and also made efforts to publicize TV school broadcasts through the teachers' group using radio broadcasts. In spite of these efforts, only 50 schools were using TV broadcasts a full year after such telecasting was inaugurated. However, with the subsequent expansion of TV coverage and the improvement of the programs, the schools using TV broadcasts had increased to 1,000 at the end of 1955, two years later.

The percentage of TV sets in schools from 1958 up to the present is seen in Fig. 1, and the percentage of the use of school

broadcasts is indicated in Figs. 2 through 5. As one can see from the comparison between the use of radio and TV broadcasts, the number of schools using television became almost equal to those using radio only seven years after the commencement of TV school broadcasts. According to a survey conducted in 1961, 56% of the primary schools were using radio broadcasts and 60% TV broadcasts. However, the number of junior and senior high schools using radio has continued to exceed those using television even down to the 1970's.

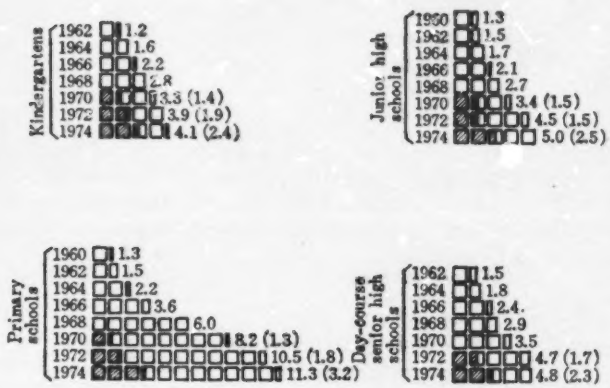
The superiority of television as an educational medium in primary schools is obvious particularly in such fields as nature study, science, geography and history, followed by programs dramatizing children's lives. Before long, dramatized TV programs replaced such radio dramas in primary schools.

As Fig. 1 shows, 97% of all the primary schools (or approximately 25,300) came to possess at least one TV set in 1965, but the number of TV sets in each school was too small to be used in every class. In 1960 each school had only 1.3 sets on the average. Although the number of TV sets gradually increased year by year, each school had still only less than three sets even in 1965, as is shown in Fig. 6. Since primary schools in Japan have 12 classrooms on the average, the pupils were obliged to move from their own classroom to a TV viewing room where 100 to 150 pupils watched one TV set at the same time.

TV school programs are transmitted once a week as a rule, and one year's series is composed of about forty programs. The contents are planned and prepared to be watched in succession. However, it was very difficult to use television in this way when each school had so few sets.

Nevertheless, since 1966 the number of TV sets at schools has rapidly increased, as seen in Fig. 6, thanks to the combined efforts of the educational authorities, schools and parents who recognized the educational benefits of television. Especially at primary schools, each school came to have an average of 11.9 sets in 1975. This means that 78% of the primary schools in Japan have installed one TV set in each classroom. NHK's survey conducted in 1974 shows that some 90% of the primary school teachers use at least one TV series, and some 70% use them

Fig. 6. Increase in the number of TV sets at each school (black and white, and color TV sets)



Note: The blackened squares and the figures in parentheses indicate the average number of color TV sets per school having color television. On color TV sets, no survey was conducted in the years not shown in blackened squares.

every week.

Table 2 shows the programs used most often, according to a survey conducted in 1974.

Table 2. Program Use

		Name of series	Percentage of use	Estimated number of schools using series
Kindergartens	TV	Puppet Show	70.3%	8,570
		Our Rhythm (Music)	57.6	7,020
	R	Stories (Tales)	24.6	3,000
		Pippo-Pippo-Bon-Bon (Music)	6.2	750

(continued)

		Name of series	Percentage of use	Estimated number of schools using series
Primary schools	TV	Nature Study (1st grade)	79.1%	19,500
		Working people (2nd grade social studies)	76.9	18,900
		Fairy Tales	46.7	12,900
		Growing Children (Puppet show)	63.8	17,200
	R	Japanese Language (1st grade)	13.6	3,350
		Fairy Tales	10.6	2,600
Junior high schools	TV	Science (1st grade)	30.0	3,250
		History of Japan	15.7	1,700
	R	Youth group (Drama)	29.2	3,160
		The World's Masterpieces (Drama)	14.5	1,570
Senior high schools	TV	Physics	26.2	1,160
		Senior High School Students' Forum	23.7	1,150
	R	How Young People Should Live	44.2	1,950
		Japanese Classical Literature	13.5	590

III. Reasons for using school broadcasts

Non-commercial broadcasting has now brought a large number of programs having high educational value to all parts of the country, and a large number of TV sets have now been installed at schools: These two facts can be cited as the major external factors in the spread of broadcasting education in Japan.

In addition, recognizing the value of educational broadcasts, teachers have altered their attitude, and the well-organized Association of Teachers Using Broadcasts has systematized TV-radio education. The role of such broadcasts can be summarized as follows:

1) Broadcasts can bring the outside world into the classroom arousing children's interest in learning and stimulating their imagination.

   In teaching young children, it is essential to stimulate their imagination. Children's imagination encourages mental activ-

ity, which in turn becomes the motivation for learning on their own. Good presentation is very effective in provoking ideas. Fairy tales, puppet shows of folk tales and shadow plays can lead children to the world of the imagination. After watching such programs, many children start reading related books. One color TV program titled "*Otogi no Heya*" ("Fairyroom"), intended for first and second graders (6 years old ~ 7 years old) is watched at 40% of the primary schools in Japan. Radio programs dramatizing fairy tales also enjoy a high reputation.

2) Broadcasts help children understand things they have not experienced.

In order to fully understand the new conceptions and rules they have learned, it is necessary for children to experience them directly as much as possible. However, it is impossible for them to experience everything. Broadcasts can fill the gap by presenting such things in forms similar to direct experience and in forms that children can understand easily. Geography programs and historical drama programs as well as certain science programs belong to this category. Also, English language programs can teach spoken English accompanied by information on the countries where English is spoken.

The most popular geography program is "Travel with Television" which is intended for ten-year old children. This consists of documentary films reporting on work in various parts of Japan, such as rice cultivation, shipbuilding, and atomic power generation. This program, which is produced by NHK's branch stations across the country, is watched at 61% of the schools. A series titled "History of the Japanese People," which is directed to eleven-year-old children, has programs dramatizing the history of the Japanese from Ancient times up to the present, and is used at 64% of all primary schools. In this series, "The Giant Statue of Buddha", telling how and why the emperor had a huge copper statue made in the eighth century, was honored at the 6th International Japan Prize Contest for educational programs.

3) Broadcasts present information in compact and summarized form, according to the schedule, so as to make understanding easier.

Broadcasts help children understand complicated phenomena systematically by presenting facts about society and nature in a suitable program structure. A good example is the social studies programs intended for children eight to nine years old. The children in this age bracket in Japan are supposed to learn the relation between the means of transportation and production, how agricultural products go to the consumers, how a city office works. Skillfully composed programs help children understand such facts more easily. One TV program, "Our Life", which is directed to nine-year-olds, is used at 62% of all primary schools.

Such educational value of television is not only obvious in the case of programs dealing with social phenomena but also for programs on mathematics, physics and biology. A color program titled "The Green Earth", started in April, 1975, emphasizes the importance of saving the earth from pollution. This series is intended to have children understand systematically how healthy and safe living for human beings can be maintained only by keeping the earth clean.

4) Broadcasts present the interaction of cause and effect and the development of logic in a summarized and simplified manner so that children can acquire ability in logical thinking.

Broadcasts can present phenomena that take place over a long time under complicated conditions by restructuring the interactions of cause and effect in a short time. For instance, broadcasts can present scientifically the phenomena of how seeds grow to put forth flowers and bear fruit, or why wood floats on the water while a stone sinks, so that children can grasp the primary methods of natural science. NHK's thirteen science programs for schools are all composed with this aim. Teachers often ask that broadcasts be made only of experiments or films otherwise unavailable in the classroom, but in the programs just mentioned, simple experiments and the observations of nature are also presented on many occasions. The aim of television is not to have children merely memorize

facts, but to help them think for themselves while watching the TV programs. Parents and teachers once feared that television would make children act too impulsively, and this fear still exists among some of them. On the contrary, if programs are well prepared to suit each stage of children's mental development and if teachers guide them skillfully on how to watch television, the children will come to gain the ability of logical thinking. Many teachers have demonstrated this with the continuous use of TV science programs.

5) Broadcasts can provide up-to-date statistical data and information.

Here in Japan school textbooks are printed each year and the new books are given to all children free of charge at the beginning of the new school terms. However, printed matter takes considerable time in each stage of its preparation, writing and of printing. On the other hand, present-day society is changing in every field so rapidly that it is difficult for textbooks to keep up-to-date. Recent examples of such unexpected change are the oil problem, the tension between the Arab countries and Israel, and other current events. Broadcasts can send into the classroom up-to-date information and images accompanied by the latest standard interpretations. This characteristic of broadcasts is often employed in a TV program called "Tomorrow's Citizens", which is directed to junior high schools, and in "Today's World" intended for senior high schools, as well as in science programs.

6) Broadcasts can give the children model of reading, pronunciation and intonation of a foreign language as well as model singing of songs and of playing musical instruments. It is of course desirable to have teachers give such models in class, but all teachers cannot pronounce English properly or be excellent musical performers. Particularly in teaching English, Japan has a very few English teachers whose mother tongue is English, and we Japanese seldom have a chance of hearing English spoken by native speakers. That is why Japanese teachers are relying much upon TV and radio English programs.

7) Broadcasts can present in color good music, fine arts, theatrical performances and classical plays to the classroom.
Broadcasts can present, accompanied by interpretation well suited for children splendid symphonies and operas, Japanese medieval dramas which are played by performers now hardly found, old folk music and excellent pictures and sculptures from Western and Asian countries.
Similar programs are also transmitted over radio. Japanese old tales, fairy tales from Western countries, and dramas by contemporary writers have been presented in the form of radio dramas in the classroom since 1935 when radio school broadcasts began. These programs enjoy high popularity among teachers.

8) Broadcasts can dramatize children's daily lives and also include children's discussions of the problems which daily happen among them. The children in the classroom listen to these programs before or after they discuss the lives they are now leading or may lead in the future. Such programs provide good material to enliven their discussion and widen its scope.
Children are to discuss in class various problems concerning their lives at home, school and in society. They often take up such themes as 'courage', 'friendship', 'parent-child relations', or 'prevention of cruelty to animals'. In junior and senior high school, 'sex', 'occupation', 'international understanding' and so forth are favorite themes of discussion. Children exchange their opinions on these themes once or twice a week, and thus are encouraged to become good members of the community.
For these discussion hours, NHK is now transmitting seven radio programs and five TV programs. Children in primary school and lower graders of junior high school mainly welcome the above-mentioned themes in the form of drama, and the upper graders and senior high school students favor the said themes discussed by children in the same age bracket as well as talks by specialists. Radio programs dealing with such themes are now enjoying the highest rate of use in junior and senior high schools. Among the programs, "The

Diary of Akio" directed to thirteen-year-old pupils is received by 29% of the junior high schools, and "We Think" (intended for the pupils fourteen years old) by 23%, and "How Young People Should Live" is used at 44% of the senior high schools. In primary schools, three color programs dramatizing children's life are quite popular, being used at about 60% of the schools.

9) Broadcasts can help children to learn standard Japanese.

There is only one language in Japan, and there is almost no illiteracy. Nevertheless, there are many dialects in Japan, and there were many children who could not speak Japanese with the standard pronunciation and accent, although they understood it. As the result, they often met difficulties when they worked in the city. In order to improve this situation, attempts have been made to disseminate standard Japanese through primary school education. School broadcasts have played an important role in this field too.

In addition to school broadcasts, general programs have also played a major role in spreading standard Japanese. At present, almost all Japanese can communicate with other persons using standard Japanese. Such being the case, the Japanese language programs now being sent to schools attach importance to using honorifics, making speeches, debates in a conference and the general manner of speech.

10) Broadcasts provide teachers with suggestions and models of how to teach their children.

In school broadcasts specialists cooperate in each step of planning and production, checking carefully whether the contents are accurate, the materials are appropriate for education and the composition is fit for children at each stage. Radio-teachers and TV-teachers are chosen from among those who are very skillful in teaching their children. Many teachers in class who have reported on their experiences of using school broadcasts say that they could obtain new information, learn proper methods of presenting the teaching materials, and get suggestions on effective ways of teaching.

11) School broadcasts are the teaching materials that can be used most cheaply and easily.

The reasons for using broadcasts already mentioned could also apply to other audio-visual aids such as educational films and series of slides for educational purposes. However, broadcasts can be used more cheaply and easily. This is particularly turn in Japan, where many programs are transmitted and many classrooms have their own TV sets.

12) Lastly, there is the rather unusual reason cited by a certain group of teachers: Using broadcasts to learn how to use broadcasts.

At present, the average Japanese adult watches television more than three hours a day, and learns various things from television more or less unconsciously. In view of this, the role played by broadcasts will become more and more important in terms of life-long education. That is why it is necessary to use radio and television in primary schools so that children can acquire "methods of learning from broadcasts" and thus during their lives they can continue such education independently.

Broadcasts are given tremendous importance here in Japan as media for educating children and adults in this "post-industrial society"; and the question of how education through broadcasting can effectively be carried out is now a focus of attention among people in this field. This will be discussed in more detail later.

IV. Exchange of views between teachers and broadcasters

The wide spread use of school broadcasts in Japan is largely due to the existence of a well-organized group of teachers using such broadcasts. Together with educational specialists, teachers analyze the programs and also make studies on teaching through broadcasts. Then, views are exchanged between the program producers, teachers and the educational authorities; and as a result, teachers' hostility toward education using broadcasts has often been changed and programs have been improved as well.

Since school broadcasts were started in Japan in 1935, lecture meetings on the use of school broadcasts have been held in various parts of the country. Thanks to such activities, radio education research associations were founded separately in Tokyo

and other districts in the northeastern and the central-western parts of Japan.

Such research activities were temporarily suspended during the Second World War, but from 1946 to 1947 similar research associations were organized again in cities and rural areas. Less than three years after the war, in April 1948, there were 62 school broadcast research associations of teachers.

In those days politics, the economy and education were all in chaos due to the defeat in the war, but many teachers who believed in a great role to be played by broadcasting in the reform and reorganization of education strongly urged the necessity of setting up a nationwide broadcasts research association. As a result, 1,300 teachers gathered together in Tokyo in November 1950, and established the All-Japan Teachers' Federation for Studying the Use of Radio and Television in Education (which is usually called '*Zemporen*' a shortened form of its Japanese name.)

The object of this Federation is to expand the use of broadcasts in education and to enlighten schools in this field, and at the same time to study methods of using broadcasts in classes. In addition, the Federation is to present teachers' opinions to the broadcasting organization about the improvement of programs, and to submit data indicating the effects of using broadcasts. The Federation is composed of the local federations existing in eight districts of Japan, and each local federation has under its control the broadcast education research associations in the various prefectures.

The number of schools participating in this Federation has increased and more teachers are using broadcasts. Thus All-Japan Federation judged that it was more effective to reorganize the school organizations separately into the groups for kindergartens, primary schools, junior high schools and senior high schools. Then in 1969 the Federation was reorganized by school level, and this system continues today. As of 1973, 88.8% of the 64,301 schools in Japan are members of the Federation.

The Federation often holds meetings for studying programs and the way of using programs in each prefecture and for each kind of school. Once a year teachers from all types of schools get together, exchanging views with the program directors, specialists

in education and educational administrators. In November 1974, about 15,000 people gathered in Tokyo to attend the 25th national meeting.

They separated into groups according to various types of programs, discussing desirable programs and their use.

There also is a system by which NHK entrusts hundreds of schools in the country with the use of a specific program to obtain feed back from the teachers to the broadcasting organization, and NHK then asks these schools to write reports on the reactions of both the children and teachers to this program. This system has been used for the past 25 years, contributing much to the actual improvement of program contents.

V. Overcoming obstacles to the use of school broadcasts

School broadcasts can have great educational value, as described in Section III, but there are also many certain obstacles to their use.

In 1958 NHK conducted a survey on the objections of teachers to the use of school broadcasts, because a TV channel intended exclusively for educational broadcasting was to start the following year. In 1958, the percentage of TV sets in use and that of schools using TV school broadcasts were as follows:

	Percentage of TV sets in use	Percentage of use of TV school broadcasts
In 1958	Primary schools: 8.1% (1,837 schools)	6.8%
	Junior high schools: 5.8% (725 schools)	3.5%

Reasons why they do not use school broadcasts:

(100% = schools owning TV sets but not using school broadcasts)

		Primary schools	Junior high schools
1.	No place to watch TV in school	37.4%	32.9%
2.	Inappropriate broadcasting time	36.9	67.1
3.	Not enough TV sets	31.1	47.4
4.	No time to use broadcasts in the school curriculums	18.9	12.3
5.	Inadequate broadcast acception	14.0	5.3

	Primary schools	Junior high schools
6. Contents of school curriculum do not correspond to those of broadcasts	11.7	11.4
7. Teachers are not acquainted with the contents of programs beforehand	9.9	8.8
8. Teachers need money to use school broadcasts	2.7	3.1
9. No teachers are available who can lead in using broadcasts	0.9	4.4

In 1958 there was an average of only 1.1 TV set in each primary school, and 90% of the schools using school broadcasts had a TV set in a TV room where more than 100 pupils had to come whenever they watched. This was why many said that they had no place to watch TV and they had too small a number of TV sets to use for teaching.

In 1959 one TV channel began to be used exclusively for education. A survey conducted in 1960, the following year, was as follows:

	Percentage of TV sets in use	Percentage of use of TV school broadcasts
In 1960 Primary schools:	52.8%	45.6%
In 1960 Junior high schools:	35.7%	17.2%

These figures show that there were many schools that did not use school broadcasts, even though they had TV sets. And the reasons cited for not using school broadcasts hardly differed from those two years before.

As shown in Figures 1 and 6, the number of schools equipped with TV sets rapidly increased year by year, while the number of sets per school remained at 1 or 2 for a long time. However, TV sets per school started to increase rapidly since 1968, and now shortages of TV sets scarcely exist, at least at primary schools. Until the middle part of the 1960's, the use of television in the classroom was confined to certain teachers who had a special interest in the new medium, or science teachers who were accustomed to the handling of machines. They acted as innovators.

In the 1970's, the TV set has become as common in the class-

rooms of primary schools as a blackboard and chalk. Now, in primary schools there are hardly any teachers who consider television an intruder into classrooms.

Nevertheless, some problems remain in junior and senior high schools. Although the number of TV sets per school has increased, teachers using television have not expanded correspondingly. The principal reasons seems to be that the teachers of such schools like to be more independent in teaching their pupils because they are relatively specialists in the subject they teach, and that most of the contents of teaching in high school is basically easier to convey by the printed words rather than by images, compared with the case of primary school. There are also three other reasons:

First, as the 1958 survey indicates, the greatest obstacle has been that the broadcasting time did not correspond to class hours. Here in Japan, one teacher generally teaches all subjects in the primary school, while in junior high school and upwards teachers are required to be much more specialized in the subject they teach, and teachers in class change as the subject change. Accordingly, it is very difficult to make the broadcasts, which are transmitted at a fixed time each week, accord with teachers' daily schedule of activities. Taking this into consideration, NHK repeats the same program two or three times a week. Yet in spite of this, schools having many classes find it difficult to use the live school broadcast.

Secondly, there may be little correspondence between the broadcast curriculum and that of the school. Though the contents of education are fixed by the Course of Study issued by the Ministry of Education, at the high school level there are many differences in the educational conditions of various districts, and types of school vary to some extent. The transmission of the same program throughout the country therefore hampers the use of school broadcasts.

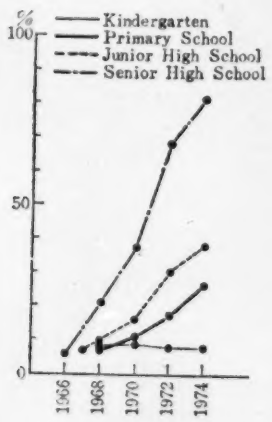
Thirdly, another reason that made teachers hesitate to use school broadcasts in classrooms is that they had no advance knowledge of the broadcast contents. Since the inauguration of school broadcasts, NHK has prepared the Teacher's Notes before the programs are transmitted, and distributed these to the schools

free of charge or at a low cost. Thus the teachers could read an outline of the program contents beforehand, but on many occasions teachers were not satisfied with the contents of the Teacher's Notes. And for the program directors it was sometimes very difficult to produce a program exactly same the contents they had described more than six months earlier for the Notes. Thus, the difference between the Teacher's Notes and the programs concerned was the cause of dissatisfaction for a long time between the teachers and the broadcasters.

In 1965, there came on the market the device called the video tape recorder (VTR), which can eliminate at once all the above-mentioned obstacles to the use of broadcasts, for school use at a comparatively low cost. VTR lets teachers use the broadcasts at the most convenient time, in perfect harmony with what they are going to teach. If occasion demands, they can play back only a part of the program or play it repeatedly. Teachers also can watch the program themselves before they use it in classes and make necessary plans in advance.

Realizing the above merits of VTR in carrying out lessons

Fig. 7. VTR's in Use

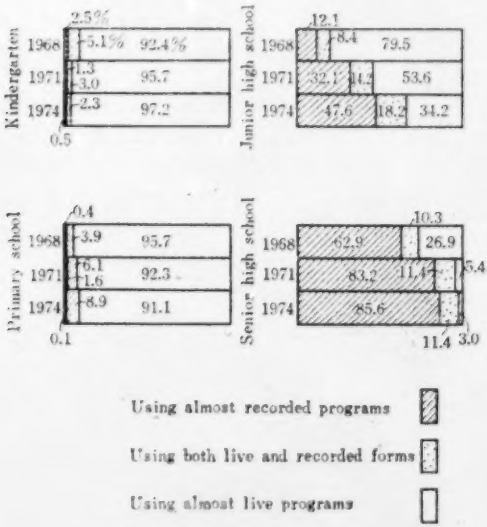


using broadcasts, many schools have already installed such equipment. Some local educational authorities purchased VTR's to distribute it to all the schools in the immediate locality.

As Fig. 7 indicates, VTR has spread rapidly to junior and senior high schools. With this, the percentage of use of TV school broadcasts has been improved, as we can see when we compare Fig. 7 and Figs. 4 and 5.

With the increase in the use of VTR, off-air use of programs has become possible. In 1974, 97% of the senior high schools using television were utilizing programs after once recording them. (See Fig. 8)

Fig. 8. Changes in the use of live programs and of recorded programs (100% = schools using TV)



The schools use recorded programs almost as they would do with films. Recorded program can be presented in part, shown repeatedly, and also kept in stock. Thus many are setting up a

VTR tape library within their schools, and the use of such libraries is on the increase.*)

A survey conducted in 1974 shows that 24% of all junior high schools and 33% of all senior high schools using television now stock more than 51 recorded school programs. For this reason, programs which were televised more than two years ago are still used again and again in the classroom. VTR made it possible to use in class general program which were broadcast after the school hours. For instance, 30-minute evening documentary programs dealing with the politics, economy and society of foreign countries are often used as material of social studies in the daytime at high schools.

Reflecting changing conditions, the survey in 1974 on what teachers consider as obstacles in the use of broadcasts, showed the following results:

(100% = schools not using TV)	Primary school	Junior high school	Senior high school
1. A shortage of equipment for recording sound and pictures	73.7%	76.7%	65.4%
2. A shortage of TV sets	61.1	66.6	57.4
3. Inappropriate broadcasting time	50.5	66.2	49.4
4. Difficulty of preparing curriculum using broadcasts	48.4	52.6	48.1
5. Broadcasts do not correspond to the content of school textbooks	18.9	20.8	20.0
6. No pre-knowledge of the content of broadcasts	16.8	22.7	35.9

VI. Educational broadcasts for handicapped children

For three years from 1958 to 1961 NHK broadcast a radio program which impressively portrayed the process of gradually acquiring 'language' by a three-year-old deaf child through its

*) Note: The copyright Act of 1971 permits the recording of educational programs as long as they are used within schools for educational purposes, and the use of the recorded tape is limited to persons who have recorded it for that purpose.

mother's love and teacher's efforts. In those days the education of deaf children of pre-school age was not well advanced. In 1958 the number of schools devoted to the education of deaf children was 103, of which only 12 had classes for three to five-year-olds.

This radio program helped to enlighten people about the importance of educating deaf children in their infancy; and although the number of children to be admitted into the infant classes of deaf schools was limited, the number of applications for such classes was on the increase.

NHK then televised "Deaf Children's TV School" in Tokyo and Osaka in the summer of 1960 in order to help the need for such education. The aim of this TV series was to guide the mothers of deaf children in training them at home in place of a teacher, and then to give the mothers the basic guidance to help their children lead more normal lives.

As the number of deaf-infant classes increased through the influence of this series, the contents of the "Deaf Children's TV School" also underwent a change. The program is now transmitted once a week for 30 minutes mainly for the sake of the mothers having deaf children of two to three years old. The program is intended to guide both the mothers and families on how to help such children until they enter a formal school class.

It is well known that television can help stimulate mentally handicapped children. Since the start of TV school broadcasts, large numbers of mentally-handicapped classes have utilized school broadcasts, and many teachers of such classes have written letters to NHK. Receiving these letters, NHK studied the possibility of making programs specifically for the mentally-handicapped by making use of the educational characteristics of television. As a result, NHK produced a 30-minute program consisting of a talk, puppet show, song and dance, and animation. This program was welcomed not only by the mentally-handicapped children's schools but also by handicapped children of pre-school age at home.

In 1965, two years later, the program was expanded into two series, one intended for seven-year-old children and the other for ten-year-old children, both with IQ's of around 60. 34% of all Japanese primary schools have a mentally-handicapped children's

class. According to a 1974' survey, 52% of the primary schools having such classes are using these series.

In addition to the above two TV series, a 30-minute weekly TV program was started in 1966 for mothers of speech-handicapped children. Besides, an educational radio program directed to the parents of mentally-handicapped children and a general radio program intended for blind people are transmitted nationwide once a week. These programs are enjoying a high reputation among the people concerned as a social welfare service.

VII. Current problems of school broadcasts in Japan

Here in Japan several thousand teachers from all over the country get together every autumn to hold a nationwide meeting on school broadcasts, during which they demonstrate the use of broadcasts in classroom, discuss methods of use, and exchange views with program producers. In the autumn of 1973 the 24th national meeting was held at Sapporo, the capital of Hokkaido, Japan's northernmost island. At this meeting many teachers strongly supported the following slogan: "Let's use broadcasts not only for teaching school subjects but also for studying broadcasts themselves".

Ninety five percent of the primary schools in Japan are now using radio and television in education, and the majority of them are using broadcasts as aids for teacher's instruction. When they teach a certain item in the school textbook, teachers often show the related programs to the pupils. Thus most teachers strongly wish to know the contents of a program in detail before they use it for the lesson. When the broadcasting day of program does not correspond to a schedule fixed in the school curriculum, they feel dissatisfied. When they judge that the children did not understand the contents of television, they try to show it again in recorded form for the children.

But now some teachers are saying that such use of broadcasts considers them just wall pictures, slides, or films, and does not make the best use of the most excellent educational characteristics of broadcasting. They argue as follows: Children of today learn much more from broadcasts at home than they learn at school. We can learn much from broadcasts throughout our life. That

is why children must learn what they can or ought to learn from broadcasts. The essence of television is that we cannot predict what it presents; it cannot be stopped or repeated; it presents information not by words but by images. Since these are the characteristics of broadcasting, it is essential for us to learn directly to make the best use of it. Therefore, these teachers think that recording a broadcast for previewing is not desirable for education. Teachers can get a vivid impression and can guide the children well when they watch a new and live program together with the children. They say that television should be used continuously every week in parallel with textbooks, even if the contents of these do not correspond to each other. These new advocates also say that, in the past, teachers basically thought that the contents of printed materials ought to be memorized by the children, but this idea must be altered. What future society expects of us is a change in education which will leads children to independent thinking and creativity. The main purpose of education using broadcasts is to learn direct from broadcasts, not to use them as mere auxiliaries for printed teaching materials.

On the other hand, there are many teachers who insist that they must know as much detail as possible about the contents of a broadcast before they show it to the pupils, as they have so far done regarding other teaching materials, and that they should select and show the children only those programs that agree with the year's teaching scheme in the textbooks. They lay stress on careful planning and preparation before showing television programs in the class and also on the follow-up after presenting it.

In order to know what teachers think about this issue, NHK conducted a survey of 1,055 primary school teachers in 1974, and obtained, for instance, the following data in Kanagawa Prefecture.

Question 1. Is it necessary for teachers to know the contents of the program before they show it to the children?

Absolutely necessary	We should know as much as possible	Hard to tell	Not so necessary	Not necessary at all
27%	64%	5%	5%	0

Question 2. Is it effective to use series programs continuously every week, or is it effective to select only those programs that agree with a teacher's study plan?

Absolutely necessary to use continuously	We should use it continuously if possible	Hard to tell	We should select programs as much as possible	Absolutely necessary to select programs
3%	31%	7%	28%	32%

Question 3. Is it necessary in science education for the contents of a program to agree with those of the lessons in class or is it better to use programs in parallel with the lessons even if they do not agree with each other in their contents?

It is necessary that they agree perfectly	It is advisable that they agree as much as possible	Hard to tell	If possible, programs must be shown as they are transmitted
12%	57%	8%	8%

It is absolutely necessary to show programs as they are transmitted	No answer
8%	7%

As the above data indicates, only few teachers want to show live programs continuously to the children without previewing, especially if the contents do not fit those of the lessons in class. Nevertheless, the new arguments on the essential nature of broadcasting should be given due consideration when we try to foresee the course which education using broadcasts may take in the future in Japan.

Yet in sharp contrast with such arguments, the majority of teachers, especially in high schools, still support the conventional idea that they should record the broadcast, evaluate its contents beforehand, and select only programs that fit their aims of teaching; and after that, they play back the recorded program for the children on the most suitable occasion. The cassette tape recorder and portable VTR are now widely used in school and their adoption for school broadcasts is increasing yearly. Encouraged by that, many teachers, who had not utilized broadcasts before since they sought the teacher's independence in selecting teaching

materials, often began using programs without showing any resistance as long as they are recorded. For the sake of these teachers, the NHK Service Center, an NHK-affiliated organization, has put on sale TV programs contained in VTR and radio programs recorded on cassette tape. It is not rare that teachers combine VTR tapes recorded several years ago with a newly televised program so that they can make up a series of their own. Besides, they can even combine a sequence they have made by using a VTR camera with part of the program which they recorded from a broadcast so as to make up a new program themselves for their pupils.

With the increase in such demand on the part of teachers, the question is now arising whether the producers of school broadcasts should transmit live materials that teachers can use as teaching materials in addition to making complete programs.

Japan has a high percentage of school use of not only radio and TV sets but also other audio-visual aids. In the case of motion picture projectors, 76% of the primary schools and 77% of the junior high schools possess these; 93% of the primary schools and 92% of the junior high schools have slide projectors; and 93% of the primary schools and 92% of the junior high schools own Over Head Projectors.

However, of the audio-visual aids being used in education here in Japan, radio and TV sets are used much more often than any others. It seems that broadcasting programs are sometimes used in place of motion pictures and slides.

In the future, it seems likely that various ways of using broadcasts will be widely adopted for education, not only as recordings for conventional purposes but also as material to learn about broadcasting itself.